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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,656	12/16/2004	David Eric Appleford	1064.29	6752

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EXAMINER	
NEWVILLE, TONI E	

ART UNIT	PAPER NUMBER
3671	

DATE MAILED: 11/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/518,656	APPLEFORD ET AL.	
	Examiner	Art Unit	
	Toni Newville	3671	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-14 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-14 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 12/16/2004.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

Page 1 line 18, "effect separation efficiently" should be "affect separation efficiency".

Appropriate correction is required.

Claim Objections

2. Claim 5 is objected to because of the following informalities: "the additional step" has no antecedent basis, and the examiner suggests it be changed to "an additional step". Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 4, the phrase "or some other appropriate sensor" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

The examiner will examine claim 4 without the phrase "or some other appropriate sensor".

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-3, 5, 6, 8 and 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Hays et. al., WO 9854441, cited by applicant.

Regarding claim 1, HAYS ~~Device~~ discloses a method for combating the formation of emulsions in production fluid, comprising the steps of:

- Commingling fluid with the production fluid (page 8 lines 18-20), and
- Detecting either a) a ratio of around 50% oil and 50% by volume in the production fluid at which emulsions form, or b) the presence of emulsions in the production fluid;

- Wherein the commingled fluid has an oil to water ratio outside a range of oil to water ratios at which emulsions are liable to form (page 9 lines 10-15).

Regarding claim 2, the detecting step further comprises the steps of

- Measuring the ratio of oil to water in a production fluid; and
- Detecting if the oil to water radio is inside the range of oil to water ratios at which emulsions are formed (page 9 lines 10-15).

Regarding claim 3, the measuring step and subsequent detecting step further comprise comparing the volumetric flowrate of oil separated from the production fluid with the volumetric flowrate of water separated from the production fluid (page 9 lines 25-27).

Regarding claim 5, the method includes the additional step of adjusting the amount of fluid to be commingled with the production fluid in response to the detecting step to maintain that the commingled fluid has an oil to water ratio outside a range of oil to water radios at which emulsions are liable to form (page 8 lines 20-23).

Regarding claim 6, the method includes the additional step of separating a fluid from the production fluid (page 8 lines 18-20), and

Wherein the commingling step further comprises commingling at least a portion of said fluid separated from the production fluid with the production fluid before the production fluid is detected for emulsions (Fig. 2, embodiment of placement of 18 in phantom).

Regarding claim 8, the separating step further comprises the step of separating a fluid from the production fluid (page 8 lines 18-20), inherently at a host facility or about at least one wellhead.

Regarding claim 12, the commingling step further comprises the step of commingling fluid with the production fluid (page 8 lines 18-20), inherently at a host facility or about at least one wellhead.

Regarding claim 13, Hays discloses a system for combating the formation of emulsions, comprising:

- Commingling means for commingling fluid with the production fluid so that the commingled fluid has an oil to water ratio outside the range of oil to water ratios at which emulsions are likely to form, and
- Means for detecting either a) a ratio of around 50% oil and 50% water by volume in the production fluid at which emulsions form, or b) the presence of emulsions in the production fluid (page 9 lines 10-15).

Regarding claim 14, water comprises the fluid separated and commingling with the production fluid in the system described in claim 13 (page 8 lines 18-20).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hays et al., WO 9854441, cited by applicant, in view of Watt, US 5025160.

Regarding claim 4, Hays describes a method for handling production fluid as described above, including meters (page 9 lines 10-15) for detecting the formation of emulsions. Hays fails to disclose a nucleonic level sensor for detecting the formation of emulsions.

Like Hays, Watt discloses a meter for detecting properties of a multiphase fluid flow having at least two liquid phases. Unlike Hays, Watt discloses the meter being nucleonic (abstract lines 5-10), the meter inherently being able to detect emulsions because emulsions involve two liquid phases in flow.

Given the teaching in Watt, it would have been obvious to one of ordinary skill in the art to include a nucleonic sensor for detecting the formation of emulsions in Shaw

because nucleonic sensors are extremely accurate and can provide real-time data regarding solids, multiple liquids, gases, and foam, thereby improving the sensory capabilities, and thereby the effectiveness of emulsion prevention, of the method in Hays.

9. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hays et al., WO 9854441, cited by applicant, in view of Shaw et al., US 6138758.

Hays discloses a method for combating the formation of emulsions in production fluid as described above including a separating step and a commingling step described above with respect to claim 6. Hays fails to disclose oil comprising the fluid separated and commingled with the production fluid.

Like Hays, Shaw discloses a method for handling production fluid, including a separating step and a commingling step. Unlike Hays, Shaw discloses oil as being the fluid separated and commingled with the production fluid (column 4 lines 31-34).

Given the teaching in Shaw, it would have been obvious to one of ordinary skill in the art to separate and commingle oil with the production fluid of Hays instead of water to allow for improved separation of the oil and water (Shaw; column 6 lines 45-49).

10. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hays et al., WO 9854441, cited by applicant, in view of Appleford et al., WO 01/20128, cited by applicant.

Hays discloses a method for combating the formation of emulsions in production fluid as described above, including a separating step and a commingling step described above with respect to claims 1 and 6. Hays fails to disclose either step being in a retrievable module for use with a modular seabed processing system.

Like Hays, Appleford discloses a method for handling production fluid, including a separating step (page 12 lines 9-14) and a commingling step (page 12 lines 21-25). Unlike Hays, Appleford further discloses both the separating step (claims 9 and 10) and the commingling step (claims 10 and 11) being in a retrievable module (2) for use with a modular seabed processing system.

Given the suggestion in Appleford, it would have been obvious to one of ordinary skill in the art to perform the separating and commingling steps of Hays in a retrievable module (Appleford; 2) as taught in Appleford so that the steps may take place without needing space on an offshore platform, and so that the means for performing the steps may be easily replaced and interchanged, thereby saving time and money.

Conclusion

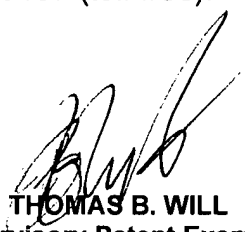
11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toni Newville whose telephone number is (571) 272 - 1548. The examiner can normally be reached on Monday - Friday 8 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will can be reached on (571) 272-6998. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Toni Newville
November 18, 2005



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